

Draft
Bundles of Early Implementation Actions
(Pre-ROD and Early Stage 1)
March 11, 1999

Introduction

The CALFED Bay-Delta Program was established to solve problems in ecosystem quality, water quality, water supply reliability, and levee and channel integrity. The Program seeks to do this by developing a long-term comprehensive plan that will restore ecological health and improve water supply reliability for beneficial uses of the Bay-Delta System. The Program has crafted alternatives that improve water quality so as to protect Delta drinking water supplies and improve the quality of aquatic habitat. Maintaining and improving the integrity of Delta levees and channels will protect agricultural, urban, and environmental uses within the Delta and protect the quality of water uses elsewhere in the state. Water conservation and recycling programs can assure the efficient use of existing water supplies and any new supplies developed through the Program.

In Phase III, following completion of the Final Programmatic EIR/EIS, implementation will begin. This period will include site-specific environmental review and permitting, as necessary. Because of the size and complexity of any of the alternatives, implementation is likely to take place over a period of decades.

The first stage of Program implementation is critical to its long-term success because it will serve as an indication of the CALFED agencies and stakeholder community capacity to act on a cost-effective, practical, and equitable set of actions which advance the Program objectives. In order to move expeditiously into Program implementation after completion of the Programmatic EIR/EIS and the Record of Decision, it is necessary to begin now to define the earliest, high priority actions, their funding requirements and sources, implementing entities, and detailed implementation plans for each action. This draft paper is intended to open a broad discussion of these issues and to elicit input from all interested participants in the CALFED process. As the action priorities are reviewed, refined, and evaluated in more detail, they will serve to guide funding priorities, formulation of cost estimates, resource planning, and implementation activities of CALFED participating agencies.

Priority Actions

Based on discussions with CALFED Program Managers, proposed high priority actions have been identified for implementation prior to or shortly after the completion of Phase

II. CALFED Program Managers in turn relied on input from technical advisory groups, public comments, agency comments, and judgment to develop this initial draft of proposed early implementation actions. These high priority actions would be the initial actions begun in Stage 1. In addition the list includes actions currently underway or proposed for initiation in Federal Fiscal Years 1999-2000. These actions are selected in order to address some of the most critical problems facing the Bay-Delta system, to achieve a fair and well balanced suite of actions, and to develop the scientific information required to guide later implementation actions according to the principles of adaptive management. Additional monitoring, research, and assessment actions need to be added to the list of proposed early implementation actions to support the adaptive management process. This information is being developed and will be included in future drafts.

Many of the actions in this list are general in nature. For most actions, final refinement will be done through a prioritization process which is developed and tailored to each CALFED program component. For example, refinement and prioritization of ecosystem actions will be set through a science based process which facilitates adaptive management. In addition, input from regional stakeholders will be carefully considered in formulating final implementation plans. All actions will be consistent with the final program plans and strategic implementation plans. The timing of implementation of each action will also be subject to funding availability.

Each proposed action must undergo the appropriate environmental review and permit process prior to implementation; their inclusion here is simply designed to help develop action and budget priorities.

Implementation Entities

Table 1 identifies agencies and organizations that appear to be the most likely entities to be the lead for implementation of each of the actions. While some of the agencies may serve a long-term implementation role in Stage I, no decisions have been made at this time on CALFED governance.

Bundles

The actions have been grouped into 7 bundles either to provide a balanced suite of actions for specific regions within the CALFED problem and solution, or to provide programmatic balance between actions which are not necessarily associated with any specific geographic area (Table 1). The bundles highlight certain critical ongoing programs which will require implementation decisions in the near future, but do not include the many other ongoing monitoring and improvement programs in the Bay-Delta region.

Once these bundles have been fully reviewed and refined, specific linkage mechanisms, as appropriate, need to be identified to assure that the bundled actions indeed move

forward together as intended. A wide range of linkage mechanisms may be applied, including contracts, inter-agency agreements, legislation (including bond acts), and individual agency funding commitments.

The 7 bundles are described below, in no particular order of priority:

Lower San Joaquin River and South Delta Region Bundle

This bundle is designed to address the regional concerns regarding south Delta and lower San Joaquin River and south Delta fisheries, water quality, water supply reliability, recreation, flood control, and wildlife habitat. The proposed actions are designed to conduct feasibility and environmental evaluations and implement corrective actions in the region as well as in upstream watersheds which affect the quality and quantity of flows in the San Joaquin River.

Lower Sacramento River, North Delta Bundle

This bundle is designed to develop an balanced solution to concerns surrounding fishery and water quality impacts of diversions from the Sacramento River into the central Delta, to address regional flood concerns, and to substantially enhance riparian and wetlands habitat corridors in the region.

Yolo Bypass, Suisun Marsh, and West Delta Bundle

This bundle is designed to address group water quality, fisheries protection, and habitat enhancement actions for the west Delta region, including Suisun Marsh, the west Delta islands, and the Yolo Bypass. Because expansion of wetlands in the Yolo Bypass area could exacerbate the potential toxicity effects of mercury originating in the Cache Creek basin, this bundle includes substantial research to identify those sources and potential remediation tools.

Delta-Wide ERP/Levees Bundle

This bundle is designed to achieve a reasonable balance between implementation of ecosystem improvement actions and levee system improvement actions. In addition this bundle includes actions to improve fisheries, water quality, and habitat throughout the Delta, including protection and enhancement of Delta in-channel islands.

Sacramento River, San Joaquin River and Tributaries Bundle

This bundle includes ecosystem restoration (primarily fisheries habitat, hatchery management, and floodplain and meander belt restoration along key river reaches.

Integrated Water Management Bundle

This bundle includes actions which can lead to improvements in water supply reliability and flexibility through improvements in water use efficiency, water transfers, water storage and conveyance facilities (groundwater and surface water), water quality, and water associated habitats. The proposed actions include the Program problem area and solution areas, including state and federal project service areas and upper watersheds. It includes key actions that comprise the Integrated Storage Investigation.

Governance Bundle

This bundle addresses certain organizational issues which need to be addressed to assure that orderly implementation of Program actions can occur as the level of activity increases substantially. These issues include the potential formation of a CALFED management entity, an ERP implementation entity, an entity for coordinated implementation of program monitoring activities, and actions to assure that water quality and water use efficiency measures can be fully implemented.

File: bundle_cov.doc
Rev. 3/11/99 smb

March 11, 1999

Table 1. Draft Early Implementation Bundles

1	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	Implementing Entity	Implementing Authority Required?
2	Lower San Joaquin River and South Delta Region Bundle						
3	Plan, Design & Construct CVP Tracy Fish Facility, First Stage Module, 2500 cfs screen, plus Sorting, Holding, Transport, and Release	New fish screens for TPP full export capacity to be completed by end of Stage 1	Improve fish survival	S/C	ERP	USBR	
4	Plan, Design, & Construct: Process for SWP Export Capacity to 10,300 cfs: New Screened Intake with Gates and LH Pumps, Head of Old River and Ag Barriers or Functional Equivalent, Channel Enlargement as Req'd. Potential Selected Channel Improvements, Signage, and Access for Recreation	Interim increase to 8500 cfs export capacity may be sought if benefits justify	Improve fish survival, water supply flex. and reliability, drinking water quality stages, circulation, and water quality	S/C	ERP	DWR, USBR	
5	Implement the Proposed Vernalis Adaptive Management Plan (VAMP) Agreement	Manage San Joaquin River flows, Delta exports, conduct fishery studies, evaluate benefits and impacts	Improve salmon survival, cu/gw management u/s, improve understanding of fish vs flow		ERP	USBR, DWR, and SJRGA	
6	Veale Tract Drainage Discharge Relocation Feasibility Study and Environmental Documentation	Possible cost share with Contra Costa Water District.	Improve drinking water	WQ			
7	Evaluate/Implement as Appropriate Release of TDS Buildup during High Flow Periods		Improve late season WQ in lower San Joaquin River, potential drinking water quality impact	WQ: not yet listed		Local Water Distr. W/ grant assistance	
8	Feasibility Study: Evaluate Recirculation Benefits and Impacts		Potential to improve water quality and meet VAMP flow requirements in lower San Joaquin River	S/C	ERP, WQ	DWR, USBR	
9	Study: Investigate Dissolved Oxygen Causes and Solutions for Lower San Joaquin River and begin implementation	Refine and Implement real-time management of discharges	Find ways to improve WQ in San Joaquin River in vicinity of Stockton	WQ	ERP	Multi-Agency: RWQCB lead	
10	Pilot Studies, Selenium: Integrated On-Farm Management	On farm selenium control management practices.	Evaluate techniques for reducing Se drainage	WQ	ERP	Grasslands Water District	

March 11, 1999

1	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	Implementing Entity	Implementing Authority Required?
11	Study: Non-seawater sources of bromine (Br) in San Joaquin drainage.	Determine if non-seawater sources of Br in San Joaquin Drainage are significant and impact water quality	Improve drinking water source quality: ID most important sources; develop abatement strategies	WQ	ERP	RWQCB and Other Entities	

March 11, 1999

1	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	Implementing Entity	Implementing Authority Required?
12	Lower Sacramento River, North Delta Bundle						
13	Restore Tidal Marsh and Riparian Habitats along Georgiana Slough	The assumption is that improved habitat will decrease the diversion effect on fisheries.	Improve fisheries and wildlife habitat	ERP			
14	Feasibility Study: Lower Mokelumne River channels dredging and limited levee setbacks, Modify/raise levees in selected reaches	Investigate the feasibility of offsetting impacts to fisheries which may result from this action	Flood control and habitat creation w/ levee berms	S/C	ERP	DWR	
15	Acquire and Convert Land for Shallow Water, Wetland, and Riparian Habitat	This action will contribute to establishment of a Mokelumne River Corridor.	Flood control and habitat creation w/ breached levees	ERP: Mokelumne Corridor		DWR, DFG, and others	
16	Study Feasibility of Delta Cross Channel Reop.and 2-4K cfs Hood Diversion		Balance water quality and fisheries benefits, potential for improved drinking water quality	S/C	ERP, WQ	DWR	

March 11, 1999

1	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	Implementing Entity	Implementing Authority Required?
17	<i>Yolo Bypass, Suisun Marsh, and West Delta Bundle</i>						
18	Implement Suisun Marsh Diversion Screening Program	It is assumed that fish screens in this area will aid in the recovery of threatened or endangered fish species.	Reduce fisheries entrainment impacts	ERP			
19	Suisun Marsh and Van Sickle Island	Evaluate and restore tidal wetlands.		ERP			
20	Provide Needs and Opportunities Analysis for Improving Ecosystem Restoration and Flood Bypass Habitat for the Yolo Bypass area	This is a portion of a general effort for flood bypass areas, including Colusa Basin, Butte Basin, Sutter Bypass, Yolo Bypass, Chowchilla Bypass, Eastside, Fresno Slough, and James Bypass. See action 42	Improve diverse habitat, fish passage, and WQ	ERP		CALFED: Multi-Agency	
21	Cache Creek Mercury Source Control Study		Develop ways to reduce Hg transport to waterways	WQ/ERP		RWQCB	
22	Clear Lake upper watershed mercury remediation actions			WQ/ERP		RWQCB,DWR	
23	Frank's Tract Habitat Restoration	Further evaluate and restore portions of Frank's Tract to provide for channel islands and tidal wetland habitat using clean dredge materials and natural sediment accretion. Combine the habitat restoration with a program to control or eradicate nuisance aquatic plants.	Create shallow water habitat, riparian	ERP		DWR, Corps	
24	Dredged Materials Reuse	Pilot Studies and Implementation, as materials and appropriate opportunities become available.	Materials for habitat, levees	Levees	ERP	DWR, Corps	
25	Barker Slough Watershed Restoration		Improve WQ, sediment,	WQ	ERP	Local: County	

March 11, 1999

1	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	Implementing Entity	Implementing Authority Required?
26	Delta Wide ERP/Levees Bundle						
27	Levees Subventions		Levee System Integrity	Levees		DWR, Corps	Congressional authorization may be required for Corps participation with Non-Project Levees
28	Levees Special Projects		Levee System Integrity	Levees		DWR	
29	Emergency Response Program		Levee System Integrity	Levees		DWR	
30	Identify Risks to Delta Levees and Develop a Risk Management Strategy		Levee System Integrity	Levees	WQ, ERP, Conveyance	CALFED	
31	Evaluate the Need to Screen Small Diversions in the Delta and implement		Reduce fisheries entrainment impacts	ERP		DFG, DWR	
32	Nonnative Invasive Species (NIS) (Note: Expand to actions in SF Bay and Suisun Marsh, to reduce further invasions and eradication of <i>Lepidium</i>)	Demonstration projects. This action is part of an ecosystem-wide effort to control non-native invasive species with early emphasis on the Delta and the Bay.		ERP		USFWS	
33	Total Organic Carbon Evaluation	General Evaluation and Pilot Study: Total Organic Carbon Reduction, DWR to do engineering and technical oversight.	Improve in-Delta drinking water source quality:	WQ/ERP		DWR, Local RD	
34	ERP Levee Relocations, Berms, Veg. Management	Cost included with In-Channel Island Restoration	Delta Shallow Water, tidal wetlands, and riparian habitat	ERP		DWR,DFG	
35	In-Channel Islands Restoration		Tidal wetlands, riparian habitat, special status species	ERP		DWR,DFG	
36	Assessment of sources and	Includes TOC, nutrients, salinity,		WQ			
37	Determine Key Acquisition Areas for Conservation of Special Status Plant Species in the Delta, Suisun Marsh, and S.F. Bay			ERP			
38	Studies to Determine Propagation Techniques and Restoration Protocols of Rare Plants in the Delta, Suisun Marsh, and S.F. Bay			ERP			

March 11, 1999

1	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	Implementing Entity	Implementing Authority Required?
39	Sacramento River, San Joaquin River, and Tribs Bundle						
40	Sacramento River Meander Corridor Studies and Implementation	Continue studies and demonstration projects which address potential changes in hydrology and geomorphology, local economic impacts, and other issues associated with ongoing riparian restoration work.		ERP		DWR	
41	American River Corridor Management Plan	Develop a corridor management plan		ERP			
42	Develop Tuolumne River and Other High-Priority Sediment Management Plans	Develop a sediment management plan that includes evaluating coarse and fine sediment transport and the need to augment gravel supplies, and is consistent with efforts to restore the Tuolumne River corridor		ERP			
43	Tuolumne River Restoration Implementation Actions	The Tuolumne River has been indentified as a large scale demonstration stream in the ERP		ERP			
44	Fish Management	Develop Biological and Genetic Management Plans to Address Restoration and Recolonization of Streams in the Central Valley by Chinook Salmon and Steelhead		ERP			
45	Hatchery Operations	Develop a comprehensive Implementation Plan for a statistically designed marking and tagging program for Chinook Salmon produced at Central Valley facilities consistent with existing programs throughout the West		ERP			
46	Upgrade Weir at Battle Creek Coleman Fish Hatchery	Repair and Modify Weir		ERP			
47	Butte Creek Restoration			ERP		DWR	
48	Deer Creek Restoration			ERP		DWR	
49	Comprehensive Flood Control Study			External	Coord. Levees, S/C	Corps, DWR	
50	Sacramento River Mercury Source ID and Control/Remediation Study			WQ			
51	Sacramento River Levees Restoration			S/C		Corps, DWR	

March 11, 1999

1	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	Implementing Entity	Implementing Authority Required?
52	San Joaquin River Meander Corridor & Tribs Study, Implementation, and Acquisition			ERP		DWR, Corps	

March 11, 1999

1	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	Implementing Entity	Implementing Authority Required?
53	<i>Integrated Water Management Bundle</i>						
54	Environmental Education Programs	Programs designed to develop a broader	Increase public awareness	ERP	WQ		
55	Develop a Long-Term Plan for In-Stream Flows	Develop Ecologically-based Hydrologic Models and Water Management Strategies and apply to formulate in-stream flow augmentation plans.	Improve fisheries and wildlife habitat	ERP			
56	Develop Ecologically-based Hydrologic Models and Water Management Strategies			ERP			
57	Provide Needs and Opportunities Analysis for Improving Ecosystem Restoration and Flood Bypass Habitats	Areas include but are not limited to: Colusa Basin, Butte Basin, Sutter Bypass, Yolo Bypass, Chowchilla Bypass, Eastside, Fresno Slough, and James Bypass.	Improve diverse habitat, fish passage, and WQ	ERP		CALFED: Multi-Agency	
58	Diazinon and chlorpyrifos Assessment	Assess the fate and transport of diazinon and chlorpyrifos; begin implementation to reduce water quality impacts, using BMP's.		WQ	ERP		
59	Diazinon and chlorpyrifos Education	Develop an educational program that provides information on ways to reduce water quality impacts. Possible test market areas include Sacramento and Stockton. 1997/1998 Eco funding provided to develop BMPs. 2000-develop BMPs		WQ			
60	Groundwater/CU Feasibility Studies with local sponsors		Improve Storage/CU utility	S/C		Local Cooperating Entities and CALFED	
61	Groundwater/CU: Develop and Impl. GW Monitoring and Modeling Progr., Butte Co. or other		Improve Storage/CU utility	S/C		Local Cooperating Entities and CALFED	
62	Friant Dam Enlargement Recon Study		Improve Flood Control and Storage/CU utility	S/C		Proposed Joint study: USBR, Corps, and Rec Board	
63	Sites and Alternatives Feasibility Study		Improve Storage/CU utility	S/C		DWR	
64	Shasta 6.5 ft Raise Feasibility Study		Improve Storage/CU utility	S/C		USBR	

March 11, 1999

1	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	Implementing Entity	Implementing Authority Required?
65	In-Delta and Adjacent to Delta Storage: Feasibility Study		Improve Storage/CU utility	S/C		DWR	
66	Power Facilities Reop. For Water Supply Study		Improve Storage/CU utility	S/C	ERP	DWR, FERC, PUC, SWRCB	
67	Overall Storage Strategy		Improve Storage/CU utility	S/C		CALFED	
68	Fish Migration Barrier Removal Prioritization and Evaluations			ERP	S/C		
69	Financial Incentive Program	Local assistance (loans & grants) for cost effective water conservation/recycling actions, Low interest loans	reduce Demand	WUE			
70		Urban		WUE		CALFED, Multi-agency	
71		Ag		WUE		CALFED, Multi-agency	
72		Managed Wetlands		WUE		CALFED, Multi-agency	
73		Recycling		WUE		CALFED, Multi-agency	
74	Technical Assistance	Recoverable loss studies, on-farm conservation studies, funded through member agencies (USBR, DWR)	reduce Demand	WUE			
75		Urban		WUE		CALFED, Multi-agency	
76		Ag		WUE		CALFED, Multi-agency	
77		Refuges or Managed Wetlands		WUE		CALFED, Multi-agency	
78		Recycling		WUE		CALFED, Multi-agency	
79	Directed Studies			WUE			
80		Research ET		WUE		DWR, UC	
81		Pilot Measurement Program		WUE		CALFED, Multi-agency	
82	Establish water transfer clearinghouse	Features of Clearinghouse in 2000/01; develop website to disseminate transfer information and approval process requirements. No user fees. Possibly house in new division of SWRCB.	Imp. Market efficiency	WT		CALFED	

March 11, 1999

1	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	Implementing Entity	Implementing Authority Required?
83	Streamline approval process/ Standardize application checklist for water transfers	Working with SWRCB, DWR, USBR to create a more standard application process. Would be available through the Clearinghouse, among other things. Several year effort. Initial effort is to clarify existing process thru SWRCB guidebook.	Assure disclosure of proposed actions	WT		USBR, DWR, SWRCB	
84	Expedite approval process for water transfers	SWRCB preparing guidebook on existing approval process. Help ID additional opportunities to expedite.	Imp. Market efficiency	WT		USBR, DWR, SWRCB	
85	Develop Definitions of Transferable Water	Develop definitions of transferable water for types of transfers that are of issue as identified in guidebook. Have to have agencies and stakeholders work closely.	Imp. Market efficiency	WT		USBR, DWR, SWRCB	
86	Carriage water Determination for Water Transfers	Coordinate with EWA to understand impacts on carriage water. Refine DWR/USBR policies after that. Work effort is dependent on outcome of EWA so defer until FY2001.	Imp. Market efficiency	WT		CALFED, Multi-agency	
87	Refill criteria determination for Water Transfers	Coordinate with SWRCB water rights hearing that involve negotiations on refill criteria (may be completed before stage 1)	Imp. Market efficiency	WT		DWR, USBR	
88	Advance Provision for In-stream Water Transfers	Develop accounting/tracking measures for 1707 transfers	Facilitate ERP Impl.	WT		CALFED, Multi-agency	
89	Forecast conveyance capacity	May be increased work effort at DWR and USBR	Imp. Market efficiency	WT		DWR, USBR	
90	Capacity Access	Work with stakeholders and DWR/USBR to make some capacity available for transfers.	Imp. Market efficiency	WT		DWR, USBR	
91	Evaluate Need for Water Rights Legislation	CALFED is preparing a recommendation. No additional funding expected.		WT		CALFED	
92	Funding in ground water/conjunctive use	Incentive program for ground water management. Coordinate with conjunctive use program/incentives. Incentive dollars would not be through this program.	Increase use of groundwater as a water management tool.	WT	S/C	CALFED	
93	Establish Pilot Environmental Water Account		Improve Delta env. Protection and water supply reliability	ERP	S/C	CALFED	
94	Environmental Water Purchases		Enhance fisheries habitat	ERP	S/C	CALFED	

March 11, 1999

1	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	Implementing Entity	Implementing Authority Required?
95	Fund and implement watershed restoration, maintenance, conservation, and monitoring activities.	Assist local watershed groups and government agencies to address common issues on a community basis through grants, directed actions, and technical support.	Manage land use, vegetation, and stream zones to reduce sediment, reduce stream flashiness, improve base flow, Reduce fire danger, reduce pathogens, and TDS	WM	ERP	CALFED	
96	Field Surveys for all special status species in and around all potential surface storage and groundwater sites						

March 11, 1999

1	Action Description	Detail/Assumptions	Primary Effects	CALFED Program	Secondary CALFED Program	Implementing Entity	Implementing Authority Required?
97	Governance Bundle						
98	CALFED Entity			Gov			Existing Structure or Leg. Required.
99	Determine/Establish governing structure for CALFED Program Elements, including ERP, WQ, Levees, WM, S/C, CMARP, WUE, WT			Gov			Existing Structure or Leg. Required.
100	Water Quality Actions Immunity: Federal Leg.	Develop appropriate balance of risk to cleanup entities and environmental due process responsibilities	Allow WQ actions to proceed w/o unacceptable liability risk	Gov	WQ	CALFED	New Federal Legislation
101	Identify Urban Water Certification Entity (UWCP)			Gov	WUE	DWR	
102	Implement Ag Water Use Certification					DWR	

List of Abbreviations

Ag	Agricultural
BMP	Best Management Practices
Br	Bromide
CCFB	Clifton Court Forebay
CMARP	Comprehensive Monitoring, Assessment, and Research Program
Corps	U.S. Army Corps of Engineers
cu/gw	Conjunctive use/groundwater
CVP	Central Valley Project
DFG	Department of Fish and Game
DWR	Department of Water Resources
Eco	Ecosystem
Env.	Environmental
ERP	CALFED Ecosystem Restoration Program
ET	Evapotranspiration
External	Related action, not part of the CALFED Program
FY	Fiscal Year (assumed to be federal in this document)
Hg	Mercury
ID	Identify
Imp.	Improve
Levees	CALFED Levee System Integrity Program
LH	Low Head
RD	Reclamation District
RWQCB	Regional Water Quality Control Board
S/C	CALFED Storage and Conveyance Programs
Se	Selenium
SJRGA	San Joaquin River Group Authority
SWP	State Water Project
SWRCB	State Water Resources Control Board
TDS	Total Dissolved Solids, mg/l
TOC	Total Organic Carbon
USBR	U.S. Bureau of Reclamation
USFWS	U.S. Fish and Wildlife Service
VAMP	Vernalis Adaptive Management Program
w/	with
WM	CALFED Watershed Management Program
WQ	CALFED Water Quality Program Elements
WT	CALFED Water Transfer Program Elements
WUE	CALFED Water Use Efficiency Program